Fact Sheet
Integrated Resource Plan

TVA is conducting a comprehensive study of resource options to meet the region's needs for electricity and to help achieve environmental sustainability for the next 20 years. This Integrated Resource Plan or IRP is called TVA's *Environmental and Energy Future*. The draft plan is available for public comment.

Background

Electric utilities periodically develop Integrated Resource Plans to determine the most cost-effective way to meet the future needs of their customers. The IRP will guide TVA in fulfilling its renewed vision to lead its region and the nation toward a cleaner and more secure energy future, relying more on nuclear power and energy efficiency, and less on coal. The IRP also will be consistent with TVA's Strategic Plan and Environmental Policy.

Key points

- When completed in spring 2011, the IRP will position TVA to respond to a dynamic and evolving environment for the electric industry. The plan will contain resource options for meeting energy needs both on the supply side (such as a conventional power plant) and the demand side (energy efficiency and peak demand reduction programs).

- TVA also is preparing an Environmental Impact Statement to assess the potential environmental effects of competing resource options.

- TVA wants to hear the public's views on the draft plan. Four public meetings will be held throughout the region in October. These meetings also will be available via webinar. The draft IRP is available on the TVA website at www.tva.gov/irp.

Emerging themes

The following key themes have emerged in the draft IRP analysis:

- Nuclear expansion is present in a majority of power portfolio options:
  - First nuclear unit is added between 2018 and 2022.
  - Nuclear overtakes coal as the leading energy provider.
- Idling a portion of TVA's coal capacity is in most portfolios, from 2,000-5,000 megawatts.
- Energy efficiency and demand response, as well as renewable generation, play an increasing role.
- Natural gas additions are a viable resource option and a key source for generation flexibility.
- Emissions of carbon dioxide (CO_2), nitrogen oxides (NO_x), sulfur dioxide (SO_2), and mercury (Hg) decrease in all portfolios.

The IRP process

- Public participation is a significant component of the IRP process. In addition to hosting public meetings and conducting surveys to gain input, TVA also formed a Stakeholders Review Group (SRG) of 16 individuals representing a wide range of interests. The SRG has been an integral part of the process, providing TVA with viewpoints on the IRP's assumptions, analyses and results.

September 2010

- Meeting the need for power in the future requires a planning strategy that is robust under many possible future environments. The IRP addresses this uncertainty through a scenario planning methodology.
- TVA first developed various scenarios based on a number of factors outside of TVA's control, including economic growth, inflation, fuel prices and the regulatory environment.
- The scenarios didn't attempt to predict the future; they only describe future uncertainties that TVA should be prepared for: economic growth, inflation, fuel prices and the regulatory environment for power plant emissions.

- Six scenarios were developed, in addition to the current TVA forecast or "baseline:" They are:
    - Scenario #1: Economy recovers dramatically
    - Scenario #2: Environmental focus is national priority
    - Scenario #3: Prolonged economic malaise
    - Scenario #4: Game-changing technology
    - Scenario #5: Energy independence
    - Scenario #6: Carbon regulation creates economic downturn

- TVA next developed various strategies TVA could use to meet the region's power needs. The strategies are designed to test different business options or approaches that TVA might consider. They are:
    - Strategy A: Limited change in current resource portfolio
    - Strategy B: Baseline resource portfolio
    - Strategy C: Diversity focused resource portfolio
    - Strategy D: Nuclear focused resource portfolio
    - Strategy E: Energy efficiency/demand response and renewables focused resource portfolio

    (Full descriptions of the scenarios and strategies are available at www.tva.gov/irp)

- Each planning strategy is analyzed in each of the different scenarios to create a matrix of 20-year portfolio options for TVA to consider. Each portfolio describes how a particular strategy performs under a certain scenario.
- Then the portfolios are rated using a scorecard designed to identify cost, risk and strategic factors that should be considered when selecting a preferred planning strategy.
- The ranking of the strategies suggests that Planning Strategy C (diversity focused resource portfolio) and Strategy E (energy efficiency/demand response and renewable focused resource portfolio) have the highest rankings relative to the other planning strategies.
- TVA will retain these strategies, along with the third-ranked strategy – Strategy B (baseline plan resource portfolio) -- for further evaluation.
- Additional analysis and sensitivity testing will be completed between the draft and final plan to help identify the best performing strategy.
- The TVA Board of Directors is expected to approve the IRP and associated EIS in spring 2011.
- TVA last completed an Integrated Resource Plan in 1995, called Energy Vision 2020. TVA is updating the resource plan to reflect changes in regulations and legislation, the marketplace for electric generating utilities and customer demand.